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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,967	12/30/2003	Sathian Nair	42P17668	8817

8791 7590 06/15/2007

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EXAMINER	
PHU, PHUONG M	

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
06/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,967	NAIR, SATHIAN	
	Examiner	Art Unit	
	Phuong Phu	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20-30* is/are allowed.

6)☒ Claim(s) *1-3,5,8,9,11,12 and 14-19* is/are rejected.

7)☒ Claim(s) *4,6,7,10 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9, parameters S, S-bar, Sh and Sh bar are not defined.

3. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claim 18 omit functional/structural cooperative relationships of element "DRAM memory" with element "storage medium", previous recited in claim 12 on which claim 18 depends, for making the claimed "computer system" as a complete operative system. Said omission renders the claim vague on how the operation or results of the operation of element "DRAM memory" affects on the operation of element "storage medium", or renders the claim vague on how the operation or results of the operation of element "storage medium" affects on the operation of element "DRAM memory".

Similarly, claim 19 omit functional/structural cooperative relationships of element "Flash memory" with element "storage medium", previous recited in claim 12 on which claim 18 depends, for making the claimed "portable radio communication device" as a complete operative device. Said omission renders the claim vague on how the operation or results of the operation

of element "Flash memory" affects on the operation of element "storage medium", or renders the claim vague on how the operation or results of the operation of element "storage medium" affects on the operation of element "Flash memory".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5, 8, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aslanis et al (5,901,180).

-Regarding to claim 1, Aslanis et al discloses a method (see figure 1) comprising:

procedure (50) of receiving a signal (54) containing carrier phase estimation information (PILOT TONE);

procedure (50, 52, 46) of estimating a carrier phase for VCXO (46) based on the carrier phase estimation information by comparing, (via (50), a phase property of the carrier phase estimation information with a value (PILOT TONE PHASE (56)) that is expected assuming phase lock "frequency synchronization" (see col. 6, lines 5-30).

-Regarding to claim 2, Aslanis et al discloses that receiving the carrier phase estimation information comprises receiving a signal having a constant complex amplitude, or namely having constant amplitude and phase in a complex/constellation plane (see col. 6, lines 10-15), (said receiving considered here equivalent with the limitation "receiving one or more points from a communications constellation).

-Regarding to claim 3, Aslanis et al discloses that estimating the carrier phase comprises comparing a phase associated with the one or more points with a phase value (PILOT TONE PHASE) that is expected assuming phase lock (see col. 6, lines 15-30).

-Regarding to claim 5, Aslanis et al discloses that estimating the carrier phase comprises comparing an amplitude associated with the one or more points with an amplitude value (PILOT TONE PHASE) that is expected assuming phase lock (see col. 6, lines 15-30).

-Regarding to claim 11, Aslanis et al discloses that using the estimated carrier phase to aid phase lock with a PLL (46, 32, 34, 36, 38, 40, 50, 52) (see figure 1).

-Regarding to claim 8, Aslanis et al teaches that the the carrier phase estimation information comprises a pilot signal (54) (see figure 10, (the signal considered here equivalent with the limitation "start-up signal". In Aslanis et al, the signal is inherently defined for a modem comprising (12, UPSTR. TRANSMITTER) (see figure 1), (the modem considered equivalent with the limitation "later modem").

-Regarding to claim 9, Aslanis et al teaches that the signal comprises a signal that is selected having constant value from a complex/phase domain (see col. 6, lines 5-15), (the signal considered here equivalent with the limitation "a start-up signal that is selected from the group consisting of S, S-bar, Sh, and Sh-bar").

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 12 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aslanis et al in view of Crawford (2004/0114675).

-Regarding to claim 12, as similarly applied to claims 1-3, 5, 8, 9 and 11, set forth above and herein incorporated, Aslanis et al teach the article (12) (see figure 1).

Aslanis et al does not teach that the article comprises a storage medium having stored thereon data representing sequences of instructions that if executed cause a component of a communication system to estimate a carrier phase based on carrier phase estimation information by comparing a property of the carrier phase estimation information with a value that is expected assuming phase lock, as claimed.

However, Aslanis et al teaches that the article comprises a method performed by hardware (50, 52, 46) which estimates a carrier phase based on carrier phase estimation information by comparing a property of the carrier phase estimation information with a value that is expected assuming phase lock (see col. 6, lines 5-30).

Carrying out a method of a system by using merely hardware, or alternatively by using a programmable processor for controlling performance of hardware component(s) of a system via a set of software instructions being executed by the processor is well-known in the art, and within skills of a person in the art. For instance, Crawford teaches merely using a hardware to perform a pilot control loop or alternatively using a processor to control a hardware for carrying out the pilot tracking loop, via a set of software instructions being executed by the processor (see [0155]).

It would have been obvious for one skilled in the art to alternatively implement Aslanis et al with a programmable processor and a set of software instructions, as taught by Crawford, in

such a way that when the set of software instructions is executed by the processor, they would cause hardware (50, 52, 46) to estimate a carrier phase based on carrier phase estimation information by comparing a property of the carrier phase estimation information with a value that is expected assuming phase lock, so that Aslanis et al invention in view of Crawford would be enhanced with features of programmability and operations in high-speed fashions.

With such the implementation, a storage medium should be inherently included, or be obvious for one skilled in the art to be included in the article, to store the set of software instructions for retrieving them later to the programmable processor for the execution.

Therefore, it can be said here that Aslanis et al in view of Crawford teaches that the article comprises the storage medium having stored thereon data representing sequences of instructions that if executed cause a component of a communication system to estimate a carrier phase based on carrier phase estimation information by comparing a property of the carrier phase estimation information with a value that is expected assuming phase lock, as claimed.

-Claim 14 is rejected with similar reasons set forth for claim 3.

-Claim 15 is rejected with similar reasons set forth for claim 5.

-Claim 16 is rejected with similar reasons set forth for claim 2.

-Claim 17 is rejected with similar reasons set forth for claim 8.

-Regarding to claim 18, Aslanis et al in view of Crawford does not teach that the article is implemented in a computer system comprising a DRAM memory, as claimed.

However, Aslanis et al invention in view of Crawford is for data communication over telephone lines or ADSL (see Aslanis et al, col. 3, line 61 to col. 4, line 9).

A need, for a computer, which might comprise a DRAM memory, of data communication over telephone lines or ADSL is well-known in the art, and the examiner takes Official Notice.

For an application, it would have been obvious for one skilled in the art to implement the article in a computer system, e.g. a PC, which might comprise a DRAM memory, for carrying out data communication of the computer system over telephone lines or ADSL, so that such the implementation would become an embodiment application derived from Aslanis et al invention in view of Crawford.

-Regarding to claim 19, Aslanis et al in view of Crawford does not teach that the article is implemented in a portable radio communication device comprising a Flash memory, as claimed.

However, Aslanis et al invention in view of Crawford is for data communication over telephone lines or ADSL (see Aslanis et al, col. 3, line 61 to col. 4, line 9).

A need, for a computer, which might comprise a Flash memory, of data communication over telephone lines or ADSL is well-known in the art, and the examiner takes Official Notice.

For an application, it would have been obvious for one skilled in the art to implement the article in a computer system, e.g. a PC, which might comprise a Flash memory, for carrying out data communication of the computer system over telephone lines or ADSL, so that such the implementation would become an embodiment application derived from Aslanis et al invention in view of Crawford.

With such the implementation, Aslanis et al in view of Crawford teaches that the article is implemented in the computer system, (considered here equivalent with the limitation "portable radio communication device"), comprising a Flash memory, as claimed.

Allowable Subject Matter

8. Claims 20-30 are allowed.

9. Claims 4, 6, 7, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Phu
Primary Examiner
Art Unit 2611

Phuong Phu
6/8/07

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PRIMARY EXAMINER